

PLANT CONSERVATION:
A BIOGEOGRAPHIC PERSPECTIVE

INTRODUCTION

GARRETT E. CROW

President, NEBC

I am extremely pleased to be able to welcome you to the New England Botanical Club's second symposium, "Plant Conservation: a Biogeographic Perspective." As many of you will recall, nine years ago, on May 4-5, 1979, the New England Botanical Club sponsored an important symposium at Harvard University which focused on New England's rare and endangered plants. The two-day symposium addressed issues concerning 1) biology of endangered species, 2) plant conservation concerns in the New England states, and 3) conserving rare plants and their habitats. The proceedings of the symposium were published in the January, 1980 issue of *Rhodora* (Vol. 82, No. 829).

That symposium brought into focus a great deal of work on the flora of New England which had been stimulated by the then recent passage of the Endangered Species Act. Congress officially recognized the issue of endangered species in 1973 by declaring in the Act that "... various species of fish, wildlife, and plants in the United States have been rendered extinct as a consequence of economic growth and development untempered by adequate concern and conservation . . ." and that others "... have been so depleted in numbers that they are in danger of or threatened with extinction. . . ." Although we fully recognize that natural events may contribute to the demise of a given species, this declaration by Congress unfortunately applies all too well to the biota of New England. Industrial, residential, and recreational development in our region has placed great demands on our environment and the rapid growth of our region continues to have a major impact on the existence and character of our flora.

The New England Botanical Club has had from its very first meeting a very great concern for the flora of the region. On December 10, 1895 a meeting of gentlemen interested in Botany, and especially the Flora of New England, met at Dr. W. J. Farlow's house in Cambridge (next door to the building that today houses the Harvard University Faculty Club). Initially the scope of the Club's activities was to cover the local flora of Massachusetts (the

Berkshires seemed rather distant in those days) and the flora of the White Mountains of New Hampshire. The local effort began with a determination of the flora of the Metropolitan Park Reservations, and a sum of \$200 was provided by the Park Commission for the mounting and processing of "worthy specimens" to be placed in the Club's newly initiated herbarium. A room in the Agassiz Museum was kindly placed at the disposal of the Club by the President of Harvard University, an offer which the Club gratefully accepted. The NEBC soon established a botanical journal to distribute contributions to our knowledge of the flora of New England, as well as taxonomy and phytogeography in general, and much information has been dispersed in the pages of the 90 volumes of the Club's journal *Rhodora*. The NEBC herbarium has grown to house ca. 250,000 specimens of plants from New England.

We could hardly have a symposium focusing on biogeography without mentioning Professor M. L. Fernald. Although not a charter member of the New England Botanical Club, Fernald (at age 22) was among the first to be elected to membership in the newly established club. M. L. Fernald was clearly a predominant figure, contributing a great deal to our knowledge of the flora and phytogeography of the northeast. In fact, his hypothesis on persistence of plants in refugia of Gaspé is a central question in the theme of one of the papers being presented this afternoon.

The recent efforts by the Club to witness issues of plant conservation came with the establishment of the Natural Areas Criteria Committee in 1971. The committee, chaired by William D. Countryman, prepared a report for the New England Natural Resources Center entitled "Guidelines and Criteria for the Evaluation of Natural Areas" (Countryman et al., 1972, 1981). The report provided 1) a listing of categories of rare and endangered species of vascular plants, and 2) a listing of the physiographic categories of important natural areas in New England.

The New England Botanical Club established the Endangered Species Committee in 1977 and set as its goal the preparation and publication of coordinated lists of the rare, threatened, and endangered indigenous vascular plant species of the six New England states. In the fall of 1978, under the encouragement of Mr. Richard Dyer, and financial support of the U.S. Fish and Wildlife Service, these individual state reports were published: Maine (Eastman, 1978), New Hampshire (Storks and Crow, 1978), Ver-

mont (Countryman, 1978), Massachusetts (Coddington and Field, 1978), Rhode Island (Church and Champlin, 1978), and Connecticut (Mehrhoff, 1978) and were published by the U.S. Fish and Wildlife Service's Office of Endangered Species.

The Club's Endangered Species Committee next focused its attention on the development of a regional list and in April, 1981 published a list of 479 rare plant taxa pertaining to the entire New England region, including only taxa significant to all of New England (Crow et al., 1981). In collaboration with members of the Committee, Crow (1982) published *New England's Rare, Threatened, and Endangered Plants*, focusing attention on and providing a more comprehensive assessment of 101 of the rarest plants in New England. At that time two of the 101 taxa, the Furbish Lousewort (*Pedicularis furbishiae*) and Robbins' Cinquefoil (*Potentilla robbinsiana*), had been listed under the Endangered Species Act. Two more taxa, Small Whorled Pogonia (*Isotria medeoloides*) and Silverling (*Paronychia argyrocoma* var. *albimontana*), had been formally proposed for listing; the former taxon since has been formally listed and the latter has been withdrawn from the listing process.

In the nine-year interval since our last symposium, a great amount of research energy has been expended on endangered species in the New England region. It is then the purpose of this symposium to focus on what we have learned and the present status of New England's rare flora, and to place it all in a biogeographic perspective.

It is my privilege to introduce to you our keynote speaker, Dr. Robert Thorne. Dr. Thorne is especially well-known for his writings relating to guiding principles of angiosperm phylogeny and for Thorne's "phylogenetic shrub," a phylogenetic classification of the Angiospermae. But you may be surprised to learn that although Bob Thorne has long been associated with the Rancho Santa Ana Botanic Garden in California, his undergraduate days were spent on the campus of Dartmouth College where the late Dr. James Poole (a long-time member of NEBC) was his professor in botany. His master's degree involved aquatic plants under W. C. Muenscher at Cornell University. In fact, he still gets his feet wet, with his continued interest in the flora of the vernal pools which develop each spring in southern California. Dr. Thorne will speak to us on the topic "Angiosperm Phylogeny and Geography."

LITERATURE CITED

- CHURCH, G. L. AND R. L. CHAMPLIN. 1978. Rare and Endangered Vascular Plant Species in Rhode Island. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].
- CODDINGTON, J. AND K. G. FIELD. 1978. Rare and Endangered Vascular Plant Species in Massachusetts. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].
- COUNTRYMAN, W. D. 1978. Rare and Endangered Vascular Plant Species in Vermont. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].
- , H. E. AHLES, G. L. CHURCH, A. R. HODGDON, G. A. L. MELHQUIST AND R. B. PIKE. 1972. Guidelines and criteria for the evaluation of Natural Areas. A report prepared for The New England Natural Resources Center by the Natural Areas Criteria Committee of the New England Botanical Club, Inc. Mimeo.
- , J. J. DOWHAN AND L. E. MORSE. 1981. Regional coordination of rare plant information synthesis by the New England Botanical Club, pp. 123–131. *In*: L. E. Morse and M. S. Henifin, Eds., Rare Plant Conservation: Geographical Data Organization. The New York Botanical Garden, Bronx, NY.
- CROW, G. E. 1982. New England's Rare, Threatened, and Endangered Plants. U.S. Gov. Print. Off., Washington, DC.
- , W. D. COUNTRYMAN, G. L. CHURCH, L. M. EASTMAN, C. B. HELLQUIST, L. J. MEHRHOFF AND I. M. STORKS. 1981. Rare and endangered vascular plants in New England. *Rhodora* 83: 259–299.
- EASTMAN, L. M. 1978. Rare and Endangered Vascular Plant Species in Maine. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].
- MEHRHOFF, L. J. 1978. Rare and Endangered Vascular Plant Species in Connecticut. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].
- STORKS, I. M. AND G. E. CROW. 1978. Rare and Endangered Vascular Plant Species in New Hampshire. The New England Botanical Club in cooperation with the U.S. Fish and Wildlife Service [Region 5, Newton Corner, MA].

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY
NESMITH HALL
UNIVERSITY OF NEW HAMPSHIRE
DURHAM, NH 03824